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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,041	01/17/2002	Frank Auer	P 284994 P-0226.010-US	1218

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EXAMINER

MATHEWS, ALAN A

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/050,041

Applicant(s)

AUER ET AL.

Examiner

Alan A. Mathews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, and 13-15 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 8-10, 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Obsaki (U. S. Patent No. 6,038,013, cited on Applicant's PTO-1449). Obsaki discloses in figure 1 a radiation system to provide a projection beam IL. Reticle R is the patterning structure used to pattern the projection beam. Column 7, lines 24 and 25 disclose a substrate table 20 to hold substrate W. The vibrationally isolated portion includes base 6 and elements supported on base 6, such as substrate table 20, columns 24 and optical projection system Pl, and second column 26, and reticle stage 27 (see column 13, lines 18-23). Base 6 is supported by vibration isolation supports 4A, 4B, and 4C. Detectors 5Z<sub>1</sub>, 5Z<sub>2</sub>, 5Z<sub>3</sub>, 5Y<sub>1</sub>, 5Y<sub>2</sub>, and 5X detect relative movement and generate a movement signal which is fed to control device 11. Detectors 10A, 10Y, and 10Z detect displacement. Column 12, lines 46-67, and column 13, lines 1-36, disclose

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actuators 7A, 7B, 7C, 7D, 32A, 32B, and 32C responsive to a control signal from control device

11. With respect to claims 6 and 8, element 2 could be considered the main plate. With respect to claim 13, column 11, line 56, disclose a piezoelectron sensor block. Claim 15 is a product-by-process claim.

3. Claims 1-10, 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Takabayashi et al. (U. S. Patent No. 5,187,519). Takabayashi et al. discloses in figure 1 a patterning structure of mask 3 and a substrate table 8 and 9. Column 6, lines 37-62, disclose sensors 16 and 17. Column 5, lines 55-65, disclose actuators 13, 14, and 18. With respect to claim 7, column 5, line 30 discloses sensing tilt or attitude.

4. Claims 1-10, 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by either Hayashi (U. S. Patent No. 6,388,733) or Takahashi (U. S. Patent No. 6,441,884). Hayashi discloses in figure 1 vibration isolators 4A-4D and actuators 7A-7D (see column 6, lines 27-67). Column 7, lines 30-65, disclose sensors 44A and 44B. Column 8, line 1, discloses a level sensor 23 detecting the tilt of platen 6 and acceleration sensor 30. The patent to Takahashi et al. (U. S. Patent No. 6,441,884) discloses piezo actuators 32A and 32B and a control section 50 (see column 10, lines 13-48). Column 9, line 31 discloses reaction frame 51. Column 12, lines 12-60 disclose sensors 26.

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*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited them in his INFORMATION DISCLOSURE STATEMENT.

*Allowable Subject Matter*

6. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for the indicated allowability of claims 11 and 12 are"

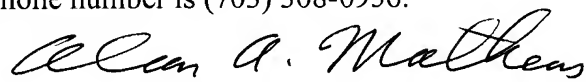
The prior art of record does not disclose or suggest does not disclose or suggest a detector, actuator and a controller tuned to compensate for movements of the projection system in a frequency band around its eigenfrequency in combination with the other elements recited in the parent claim of dependent claim 11.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (703) 308-1706. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Alan A. Mathews  
Primary Examiner  
Art Unit 2851

AAM  
June 2, 2003